# GOVERNMENT OF INDIA
# ATOMIC ENERGY
# LOK SABHA

UNSTARRED QUESTION NO:4483
ANSWERED ON:29.03.2017
Balloon Flights for Scientific Expedition
Kambhampati Dr. Hari Babu

**Will the Minister of ATOMIC ENERGY be pleased to state:**

(a)whether the Government proposes to release balloon flights for scientific expedition in the country;

(b)if so, the details thereof and the steps taken by the Government in this regard;

(c)whether the Government proposes to create awareness among the people about the balloon drifts and safe recovery of the instruments thereon;

(d)if so, the details thereof and the steps taken by the Government in this regard; and

(e)the fund allocated for the said purpose?

## Answer

THE MINISTER OF STATE FOR PERSONNEL, PUBLIC GRIEVANCES & PENSIONS AND PRIME MINISTER'S OFFICE (Dr. JITENDRA SINGH) :

(a)&(b)Scientific Ballooning was started in India during the 1950's by Dr. Homi J. Bhabha under the aegis of the Tata Institute of Fundamental Research (TIFR), an autonomous body under the Department of Atomic Energy (DAE) and was established in the outskirts of Hyderabad in the 1970's. Since then, more than 490 balloon flights of various sizes have been conducted from this center till date. This is one of the unique facilities in the world where stratospheric zero pressure balloons are designed, fabricated with indigenous material, launched and the instruments recovered. The balloons designed and fabricated in this facility have also been exported to foreign scientific institutions and many foreign scientific missions have also been flown from the Hyderabad balloon facility.
Balloons supplied by this facility are used to measure vertical wind profiles at SDSC-SHAR before launch of satellites by ISRO and also for qualifying many instruments in near space environments before being incorporated in satellites. This facility is also involved in experimental strategic programs of the armed forces. Experiments carried out on the earth's atmosphere have also helped in rain prediction as well as pollution monitoring and control.
Any scientific institution which desires to conduct scientific balloon flights can approach Balloon Facility, Hyderabad and send the proposal for conducting the scientific experiment.

(c)&(d)TIFR ensures that all the concerned agencies are kept informed about the flights, their expected trajectory and their likely recovery area. At the time of the balloon flights, all Air Traffic Controllers (ATCs) in the corridor allotted for balloon flights are kept informed by TIFR well in advance of the trajectory of the balloon flight. During the balloon flight, the ATCs are kept informed of the actual position of the balloon on minute by minute basis. The police stations in the vicinity of the expected landing of the instruments are also informed. Pamphlets regarding the instruments are attached to the instruments in various local languages and the persons to contact in case these instruments are sighted by any person, are prominently displayed. Also, an advance party of TIFR technicians is always following the balloon trajectory in a vehicle so as to reach the landed instrument in the shortest possible time. Care is taken to try and release the payload in sparsely inhabited areas of the corridor and only in broad daylight so that the instrument descending on a brightly colored parachute is easily visible to any person on the ground.

In addition, for every flight window season, the Balloon Facility communicates with the Chief Secretary of Telangana and Andhra Pradesh, Police Wireless of Telangana, Andhra Pradesh, Karnataka and Maharashtra for awareness of balloon drift and instrument recovery.

(e)In the case of balloon flights conducted for Government funded and private institutions, the cost is recovered from the institution concerned. With regard to in-house experiments and research and with regard to improving balloon design and efficiency and for procuring equipment for safely conducting balloon flights, funding from the Government (DAE) in terms of Plan Funds is about Rupees One crore per year.
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